

Volume 12
1991

PLACENTA

AN INTERNATIONAL JOURNAL

EDITORS

R.D.H. BOYD, U.K.

K.L. THORNBURG, U.S.A.



BAILLIERE TINDALL

London Philadelphia Sydney Tokyo Toronto



Digitized by the Internet Archive
in 2023

Contents

Number 1, January–February 1991

Classics Revisited

MOSSMAN, H. W. Comparative Morphogenesis of the Fetal Membranes and Accessory Uterine Structures	1
--	---

Original Articles

KING, B. F. Scanning Electron Microscopy of Primate Chorionic Villi Following Ultrasonic Microdissection	7
KAMEDA, T., KOYAMA, M., MATSUZAKI, N., TANIGUCHI, T., SAJI, F. & TANIZAWA, O. Localization of Three Subtypes of Fcγ Receptors in Human Placenta by Immunohistochemical Analysis	15
GROSS, T. S., WILLIAMS, W. F. & RUSSEK-COHEN, E. Cellular Changes in the Peripartum Bovine Fetal Placenta Related to Placental Separation	27
BECKMAN, D. A., PUGARELLI, J. E., KOSZALKA, T. R., BRENT, R. L. & LLOYD, J. B. Sources of Amino Acids for Protein Synthesis During Early Organogenesis in the Rat. 2. Exchange with Amino Acid and Protein Pools in Embryo and Yolk Sac	37
SVANE, D., SKAJAA, K., ANDERSSON, K.-E. & FORMAN, A. Vascular Responses in Term Pregnant and Non-pregnant Human Uterus	47
ROBAUT, C., MONDON, F., BANDET, J., FERRE, F. & CAVERO, I. Regional Distribution and Pharmacological Characterization of [¹²⁵ I] Endothelin-1 Binding Sites in Human Fetal Placental Vessels	55
SCHRÖDER, H., HATANO, H. & LEICHTWEISS, H.-P. D-Glucose Transfer Rates Derived From Single-injection and Steady State Tracer Experiments in the Isolated Guinea-pig Placenta	69
DANCIS, J. Conference Report: International Conference on Placenta—Tokyo, 1–3 October 1990	79

Letter to the Editor	83
----------------------	----

Book Reviews

- Environmental Causes of Human Birth Defects, T. V. N. Persaud. Reviewed by McMichael, A. J. 85
- A Colour Atlas of Life Before Birth—Normal Fetal Development, M. A. England. Reviewed by Boyd, R. D. H. 86

Number 2, March–April 1991**Classics Revisited**

- RAMSEY, E. M. The Yale Embryo 87

Current Topic: Symposium on Placental Endocrinology

1. SILER-KHODR, T. M., KANG, I. A. & KHODR, G. S. Effects of Chorionic GNRH on Intrauterine Tissues and Pregnancy 91
2. RILEY, S. C. & CHALLIS, J. R. G. Corticotrophin-releasing Hormone Production by the Placenta and Fetal Membranes 105
3. HANDWERGER, S., MARKOFF, E. & RICHARDS, R. Regulation of the Synthesis and Release of Decidual Prolactin by Placental and Autocrine/Paracrine Factors 121

Original Articles

- FENELEY, M. R. & BURTON, G. J. Villous Composition and Membrane Thickness in the Human Placenta at Term: A Stereological Study Using Unbiased Estimators and Optimal Fixation Techniques 131
- GRUBB, J. D., KOSZALK, T. R., DRABICK, J. J. & METRIONE, R. M. The Activities of Thiol Proteases in the Rat Visceral Yolk Sac Increase During Late Gestation 143
- CANO, A. & RIVERA, J. Demonstration of P29, an Oestrogen Receptor-associated Tumor Marker, in Human Term Placenta 153
- PEEL, S. & ADAM, E. The Killing of Rat Placental Cells by Rat and Mouse Granulated Metrial Gland Cells In Vitro 161
- LABARRERE, C. A. & FAULK, W. P. Anchoring Villi in Human Placental Basal Plate: Lymphocytes, Macrophages and Coagulation 173
- Erratum** 183

Number 3, May–June 1991**Current Topic**

- MCNAUGHTON, T. & POWER, G. G. The Maternal–Fetal Electrical Potential Difference: New Findings and a Perspective 185

Original Articles

- VANDERPUYE, O. A., LABARRERE, C. A. THALER, C. J., FAULK, W. P. & MCINTYRE, J. A. Syncytiotrophoblast Brush Border Proteins Recognized by Monoclonal Antibody TRA-2-10 and Rabbit Anti-TLX Sera 199
- KATO, M., OHASHI, K., SAJI, F., WAKIMOTO, A. & TANIZAWA, O. Expression of HLA Class I and β_2 -microglobulin on Human Choriocarcinoma Cell Lines: Induction of HLA Class I by Interferon- γ 217
- CAMPBELL, W. J., LARSEN, D., DEB, S., KWOK, S. C. M. & SOARES, M. J. Expression of Alkaline Phosphatase in Differentiated Rat Labyrinthine Trophoblast Tissue 227
- KARL, P. I., TEICHBERG, S. & FISHER, S. E. Na^+ -Dependent Amino Acid Uptake by Human Placental Microvillous Membrane Vesicles: Importance of Storage Conditions and Preservation of Cytoskeletal Elements 239
- KUHN, E. M., THERMAN, E. & SUSMAN, B. Amitosis and Endocycles in Early Cultured Mouse Trophoblast 251
- POISNER, A. M., THRAILKILL, K., POISNER, R. & HANDWERGER, S. Cyclic AMP as a Second Messenger for Prorenin Release from Human Decidual Cells 263
- JAUNIAUX, E., BURTON, G. J., MOSCOSO, G. J. & HUSTIN, J. Development of the Early Human Placenta: A Morphometric Study 269
- VARMA, D. R. & RAMAKRISHNAN, R. Effects of Protein-calorie Malnutrition on Transplacental Kinetics of Amino-isobutyric Acid in Rats 277
- TALMI, Y. P., SIGLER, L., INGE, E., FINKELSTEIN, Y. & ZOHAR, Y. Antibacterial Properties of Human Amniotic Membranes 285
- CARL, J., CHRISTENSEN, M. & MATHIESEN, O. Human Placental Lactogen (hPL) Model for the Normal Pregnancy 289

Book Review

- Fetal Autonomy and Adaptation. Reviewed by Hay, W. W. 299

Number 4, July–August 1991

Current Topics

- REDMAN, C. W. G. Pre-eclampsia and the Placenta 301
- ENDERS, A. C. Structural Responses of the Primate Endometrium to Implantation 309

Original Articles

- KULANTHAIVEL, P., MIYAMOTO, Y., MAHESH, V. B., LEIBACH, F. H. & GANAPATHY, V. Inactivation of Taurine Transporter by Calcium in Purified Human Placental Brush Border Membrane Vesicles 327

CATTINI, P. A., NICKEL, B., BOCK, M. & KARDAMI, E. Immunolocalization of Basic Fibroblast Growth Factor (bFGF) in Growing and Growth-Inhibited Placental Cells: A Possible Role for bFGF in Placental Cell Development	341
LUNDIN-SCHILLER, S. & MITCHELL, M. D. Prostaglandin Production by Human Chorion Laeve Cells in Response to Inflammatory Mediators	353
Abstracts of Papers to be Presented at the 4th Meeting of the European Placenta Group with the Rochester Trophoblast Conference, Gwatt, Switzerland, 22–26 September 1991	365
Author index of Abstracts	449

Number 5, September–October 1991

Review Article

BOURA, A. L. A. & WALTERS, W. A. W. Autacoids and the Control of Vascular Tone in the Human Umbilical–Placental Circulation	453
---	-----

Current Topic

FOX, H. Trophoblastic Pathology	479
---------------------------------	-----

Original Articles

TAKAHASHI, H., IKARASHI, T., KANAZAWA, K., KOMINAMI, R. & TANAKA, K. Re-evaluation of Hydatiform Mole by DNA Fingerprint Method: The Discrepancy in the Diagnoses by Pathological Findings and the DNA Fingerprint Method	487
SCHRÖDER, H., SCHOCH, C., ELWERS, W. & LEICHTWEIß, H.-P. The Artificially Perfused Guinea-Pig Yolk Sac Placenta: Transfer and Uptake of Water, Glucose and Amino Acids	495
DE LA LLOSA-HERMIER, M. P., MARTAL, J., RICOUR, A. & HERMIER, C. Evidence for Modulation of Progesterone Secretion by Calcium and Protein Kinase C Activators in Ovine Chorionic Cells	511
SHURTZ-SWIRSKI, R., SIMON, R. J., COHEN, Y. & BARNEA, E. R. Human Embryo Modulates Placental Function in the First Trimester; Effects of Neural Tissues upon Chorionic Gonadotropin and Progesterone Secretion	521
GARCIA, A. G. P., BASSO, N. G. DA S., EVANGELINA, M., FONSECA, M. E. F., ZUARDI, J. A. T. & OUTANNI, H. N. Enterovirus Associated Placental Morphology: A Light Virological, Electron Microscopic and Immunohistologic Study	533

Brief Communication

GRABOWSKA, A., REGAN, L., HAWLEY, S. & LOKE, Y. W. Human Pregnancy Sera from Sequential Stages of Gestation are Increasingly Inhibitory to the Growth of Trophoblast Cells in Culture	549
---	-----

Book Reviews

Endosonography in Obstetrics and Gynecology. Reviewed by D. Maulik	553
Control of Pig Reproduction III. Reviewed by K. Nieman	554

Number 6, November–December 1991

Current Topic

MITCHELL, M. D. The Regulation of Placental Eicosanoid Biosynthesis	557
---	-----

Original Articles

NANAEV, A. K., RUKOSUEV, V. S., SHIRINSKY, V. P., MILOVANOV, A. P., DOMOGATSKY, S. P., DUANCE, V. C., BRADBURY, F. M., YARROW, P., GARDINER, L., d'LACEY, C. & OCKLEFORD, C. D. Confocal and Conventional Immunofluorescent and Immunogold Electron-microscopic Localization of Collagen Types III and IV in Human Placenta	573
LUNDIN-SCHILLER, S. & MITCHELL, M. D. Regulation of Chorion Laeve Prostaglandin E ₂ Production by Epidermal Growth Factor, Protein Kinase C Activation and Calcium	597
NOMURA, S., TOKUMITSU, H., MIZUTANI, S., NARITA, O., TOMADA, Y. & HIDAKA, H. Identification of Two Subtypes of Protein Kinase C in Human Placenta	605
RINDLER, M. J., TRABER, M. G., ESTERMAN, A. L., BERSINGER, N. A. & DANCIS, J. Synthesis and Secretion of Apolipoprotein E by Human Placenta and Choriocarcinoma Cell Lines	615
DUMARTIN, B. & CANIVENC, R. Ultrastructural Study of Endothelial Permeability to Macromolecules in Fetal Paraplacental Capillaries of European Badger	625
ARKWRIGHT, P. D., REDMAN, C. W. G., WILLIAMS, P. J., DWEK, R. A. & RADEMACHER, T. W. Syncytiotrophoblast Membrane Protein Glycosylation Patterns in Normal Human Pregnancy and Changes with Gestational Age and Parturition	637
GHABRIAL, H., CZUBA, M. A., STEAD, C. K., SMALLWOOD, R. A. & MORGAN, D. J. Transfer of Acipimox Across the Isolated Perfused Human Placenta	653
POVINELLI, C. M. & KNOLL, B. J. Trace Expression of the Germ-Cell Alkaline Phosphatase Gene in Human Placenta	663

Conference Report

SAGER, P. R. Workshop on the Role of the Placenta in HIV Infection and Therapy, Nantucket, Massachusetts, 10–13 September 1990	669
--	-----

Erratum	673
----------------	-----

Index

- Accessory uterine structures, 1
Acipimox, 653
Adam, E., 161
Alkaline phosphatase, 227, 663
Amino acids—
 rat organogenesis, 37
 Na⁺-dependent uptake, 239
 transfer and uptake, 495
Amino-isobutyric acid, 277
Amitosis, 251
Amniotic membranes, human, 285
Andersson, K.-E., 47
Antibacterial properties of amniotic membranes, 285
Anti-TLX sera, rabbit, 199
Apolipoprotein E, 615
Arkwright, P. D., 637
Autacoids, 453
Autocrine/paracrine factors; prolactin regulation, 121

Badger, European, 625
Bandet, J., 55
Barnea, E. R., 521
Basic fibroblast growth factor, 341
Basso, N. G. Da S., 533
Beckman, D. A., 37
Bersinger, N. A., 615
bFGF, 341
Bock, M., 341
Book reviews, 85, 299, 553
Boura, A. L. A., 453
Bovine fetal placenta; cellular changes, 27
Bradbury, F. M., 573
Brent, R. L., 37
Burton, G. J., 131, 269

Calcium, 327, 511, 597
Campbell, W. J., 227
Canivenc, R., 625
Cano, A., 153
Capillaries, 625
Carl, J., 289
Cattini, P. A., 341
Cavero, I., 55
Cellular changes and placental separation, 27
Challis, J. R. G., 105
Choriocarcinoma, 217, 615
Chorion laeve cells, human, 353
Chorion laeve prostaglandin E₂ production, 597
Chorionic cells, ovine, 511
Chorionic GNRH, 91
Chorionic gonadotropin, 521
Chorionic villi, primate, 7
Christensen, M., 289

Coagulation, 173
Cohen, Y., 521
Collagen localization, 573
Corticotrophin-releasing hormone, 105
Cyclic AMP, 263
Cytoskeletal elements; conservation, 239
Czuba, M. A., 653

Dancis, J., 79, 615
Deb, S., 227
Decidual cells, human, 263
de la Llosa-Hermier, M. P., 511
Development of early placenta, 269
d'Lacey, C., 573
DNA fingerprinting, 487
Domogatsky, S. P., 573
Drabick, J. J., 143
Duance, V. C., 573
Dumartin, B., 625
Dwek, R. A., 637

Eicosanoid biosynthesis regulation, 557
Electrical potential difference, maternal-fetal, 185
Electron microscopy, 7, 533, 573
Elwers, W., 495
Embryo, exchange with amino acid and protein pools in, 37
Embryo modulates placental function, 521
Embryo, Yale, 87
Enders, A. C., 309
Endocycles, 251
Endometrium: responses to implantation, 309
Endothelial permeability to macromolecules, 625
Endothelin-1, [¹²⁵I], binding sites, 55
Enterovirus, 533
Epidermal growth factor, 597
Esterman, A. L., 615

Faulk, W. P., 173, 199
Feneley, M. R., 131
Ferre, F., 55
Fetal-maternal electrical potential difference, 185
Fetal membranes; corticotrophin-releasing hormone, 105
Fetal membrane morphogenesis, 1
Fetal paraplacental capillaries, 625
Fetal placenta, bovine; cellular changes, 27
Fetal placental vessels; [¹²⁵I] binding sites, 55
Fibroblasts, bFGF, 341
Finkelstein, Y., 285
Fisher, S. E., 239
Fonseca, M. E., 533
Forman, A., 47
Fox, H., 479

- Ganapathy, V., 327
 Garcia, A. G. P., 533
 Gardiner, L., 573
 Germ-cell alkaline phosphatase gene expression, 663
 Gestation, late, 143
 Gestational age, 637
 Ghabrial, H., 653
 Glucose, 495
 D-Glucose transfer rates; guinea-pig placenta, 69
 Glycosylation, 637
 GNRH, chorionic, 91
 Gonadotropin, chorionic, 521
 Grabowska, A., 549
 Granulated metrial gland cells, 161
 Gross, T. S., 27
 Grubb, J. D., 143
 Guinea-pig placenta; D-glucose transfer rates, 69
 Guinea-pig yolk sac placenta, 495

 Handwerger, S., 121, 263
 Hatano, H., 69
 Hawley, S., 549
 Hermier, C., 511
 Hidaka, H., 605
 HIV (1990 Workshop), 669
 HLA Class I, 217
 Human amniotic membranes, 285
 Human choriocarcinoma cell lines, 217
 Human chorion laeve cells, 353
 Human decidua cells; prorenin release, 263
 Human embryo modulates placental function, 521
 Human placenta—
 acipimox transfer across, 653
 alkaline phosphatase gene expression, 663
 amino acid uptake, 239
 apolipoprotein E, 615
 basal plate; anchoring villi, 173
 brush border membrane vesicles, 327
 calcium and, 327
 collagen localization in, 573
 early development, 269
 Fcγ receptor subtypes, 15
 first trimester, 521
 ^{[125]I} binding sites in fetal vessels, 55
 membrane thickness at term, 131
 microvillous membrane vesicles, 239
 P29 at term, 153
 protein kinase C subtypes, 605
 umbilical-placental circulation, 453
 villous composition at term, 131
 Human placental lactogen model, 289
 Human pregnancy sera and trophoblast cell growth, 549
 Human umbilical-placental circulation, 453
 Human uterus, vascular responses in, 47
 Hustin, J., 269
 Hydatiform mole, 487

 Ikarashi, T., 487
 Immunohistology, 533
 Immunolocalization, 341
 Implantation: responses of primate endometrium, 309
 Inflammatory mediators, 353
 Inge, E., 285
 Interferon-γ, 217
 Intrauterine tissues; chorionic GNRH, 91
^{[125]I} endothelin-1 binding sites, 55

 Jauniaux, E., 269

 Kameda, T., 15
 Kanazawa, K., 487

 Kang, I. A., 91
 Kardami, E., 341
 Karl, P. I., 239
 Kato, M., 217
 Khodr, G. S., 91
 King, B. F., 7
 Knoll, B. J., 663
 Kominami, R., 487
 Koszalk, T. R., 143
 Koszalka, T. R., 37
 Koyama, M., 15
 Kuhn, E. M., 251
 Kulanthaivel, P., 327
 Kwok, S. C. M., 227

 Lambarrere, C. A., 173, 199
 Larsen, D., 227
 Leichtweiss, H.-P., 69
 Leichtweiß, H.-P., 495
 Liebach, F. H., 327
 Lloyd, J. B., 37
 Loke, Y. W., 549
 Lundin-Schiller, S., 353, 597
 Lymphocytes, 173

 McIntyre, J. A., 199
 McNaughton, T., 185
 Macromolecules, 625
 Macrophages, 173
 Mahesh, V. B., 327
 Malnutrition, protein-calorie, 277
 Markoff, E., 121
 Martal, J., 511
 Maternal-fetal electrical potential difference, 185
 Mathiesen, O., 289
 Matsuzaki, N., 15
 Membranes, amniotic, human, 285
 Membranes, fetal; morphogenesis, 1
 Membrane protein glycosylation, 637
 Membrane thickness in human placenta, 131
 Metrial gland cells, 161
 Mettrione, R. M., 143
 β₂-Microglobulin, 217
 Microvillous membrane vesicles, 239
 Milovanov, A. P., 573
 Mitchell, M. D., 353, 557, 597
 Miyamoto, Y., 327
 Mizutani, S., 605
 Mondon, F., 55
 Monoclonal antibodies, TRA-2-10, 199
 Morgan, D. J., 653
 Moscoso, G. J., 269
 Mossman, H. W., 1, 83
 Mouse metrial gland, 161
 Mouse trophoblast, 251

 Nanaev, A. K., 573
 Narita, O., 605
 Neural tissues, 521
 Nickel, B., 341
 Nomura, S., 605

 Ockleford, C. D., 573
 Oestrogen receptor-associated tumor marker P29, 153
 Ohashi, K., 217
 Organogenesis and protein synthesis, 37
 Outanni, H. N., 533
 Ovine chorionic cells, 511

 P29 in human term placenta, 153
 Paraplacental capillaries, 625

- Parturition, 637
 Peel, S., 161
 Peripartum bovine fetal placenta; cellular changes, 27
 Placenta: International Conference Report, Tokyo, 1-3 October 1990, 79
 Placenta—
 bFGF in cell development, 341
 bovine, 27
 cell development, 341
 corticotrophin-releasing hormone production, 105
 eicosanoid biosynthesis regulation, 557
 guinea-pig, 69
 in HIV infection (1990 Workshop), 669
 human *see* Human placenta
 morphology, enterovirus associated, 533
 and pre-eclampsia, 301
 prolactin regulation, 121
 rat, 161
 Placental Endocrinology Symposium, 91, 105, 121
 Placental lactogen model, human, 289
 Placental separation, and cellular changes; 27
 Poisner, A. M., 263
 Poisner, R., 263
 Povinelli, C. M., 663
 Power, G. C., 185
 Pre-eclampsia, 301
 Pregnancy, 637
 Pregnancy—
 chorionic GNRH, 91
 growth of trophoblast cells, 549
 hPL model, 289
 vascular responses in human uterus, 47
 Primate chorionic villi, 7
 Primate endometrium; response to implantation, 309
 Progesterone, 511, 521
 Prolactin, decidual, 121
 Prorenin release, 263
 Prostaglandin E₂, 597
 Prostaglandin production, 353
 Protein-calorie malnutrition, 277
 Protein kinase C, 511, 597, 605
 Protein synthesis, 37
 Pugarelli, J. E., 37

 Rabbit anti-TLX sera, 199
 Rademacher, T. W., 637
 Ramakrishnan, R., 277
 Ramsey, E. M., 87
 Rat labyrinthine trophoblast tissue, 227
 Rat metrial gland, 161
 Rat organogenesis, and protein synthesis, 37
 Rat placental cells, in vitro killing of, 161
 Rat: protein-calorie malnutrition, 277
 Rat visceral yolk sac; thiol proteases, 143
 Receptors, Fcγ, in human placenta, 15
 Redman, C. W. G., 301, 637
 Regan, L., 549
 Richards, R., 121
 Ricour, A., 511
 Riley, S. C., 105
 Rindler, M. J., 615
 Rivera, J., 153
 Roubaut, C., 55
 Rukosuev, V. S., 573
 Russek-Cohen, E., 27

 Scanning electron microscopy, 7
 Schoch, C., 495
 Schröder, H., 69, 495
 Shirinsky, V. P., 573
 Shurtz-Swinski, R., 521
 Sigler, L., 285
 Siler-Khodr, T. M., 91
 Simon, R. J., 521
 Skajaa, K., 47
 Smallwood, R. A., 653
 Soares, M. J., 227
 Na⁺-dependent amino acid uptake, 239
 Stead, C. K., 653
 Susman, B., 251
 Svane, D., 47
 Syncytiotrophoblast brush border proteins, 199
 Syncytiotrophoblast membrane protein glycosylation, 637

 Takahashi, H., 487
 Talmi, Y. P., 285
 Tanaka, K., 487
 Taniguchi, T., 15
 Tanizawa, O., 15, 217
 Taurine transporter inactivation, 327
 Teichberg, S., 239
 Thaler, C. J., 199
 Therman, E., 251
 Thiol proteases in rat visceral yolk sac, 143
 Thraillkill, K., 263
 Tokumitsu, H., 605
 Tomada, Y., 605
 Traber, M. G., 615
 Transplacental kinetics, 277
 Trophoblast—
 alkaline phosphatase expression, 227
 cell growth, 549
 Conference, Switzerland (1991), 365
 mouse, 251
 pathology, 479
 Tumor marker, P29, 153

 Ultrastructure, 625
 Umbilical-placental circulation, 453
 Uterus, human, vascular responses in, 47

 Vanderpuye, O. A., 199
 Varma, D. R., 277
 Vascular responses in human uterus, 47
 Vascular tone control, 453
 Villi, anchoring, in basal plate, 173
 Villi, chorionic, 7
 Villous composition in human placenta, 131

 Wakimoto, A., 217
 Walters, W. A. W., 453
 Water, 495
 Williams, P. J., 637
 Williams, W. F., 27

 Yale embryo, 87
 Yarrow, P., 573
 Yolk sac, exchange with amino acid and protein pools in, 37
 Yolk-sac placenta, guinea-pig, 495
 Yolk sac, visceral, rat, 143

 Zohar, Y., 285
 Zuardi, J. A. T., 533

Copyright © 1991 Ballière Tindall Ltd

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form by photostat, microfilm, or any other means without written permission from the publishers.